

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-16 are currently pending in the application. Claims 1, 8, 14 and 15 are amended; and Claim 16 is newly added by the present amendment. Support for the amended and new claims can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the Office Action, Claims 1, 8 and 15 were objected to because of minor informalities; Claims 7 and 14 were rejected under 35 U.S.C. § 112, second paragraph; Claim 15 was rejected under 35 U.S.C. § 101; Claims 1-5, 8-12 and 15 were rejected under 35 U.S.C. § 102(b) as anticipated by Kondo et al. (U.S. Pub. 2004/0021775, herein Kondo); Claims 6 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kondo in view of Wang et al. (U.S. Pat. 5,557,684, herein Wang); Claims 7 and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kondo in view of Wang and Kondo et al. (U.S. Pat. 5,940,539, herein Kondo '539).

The Office Action objected to Claims 1, 8 and 15 asserting that the phrase "each of which is made up of..." is unclear. In response, Claims 1, 8 and 15 are amended to recite "each of the multiple images" to clarify that the term "each" refers to the previously recited "multiple images."

Accordingly, Applicants respectfully request that the objection to Claims 1, 8 and 15 be withdrawn.

Claims 7 and 14 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. More particularly, the Office Action asserts that "the term 'class tap' is not defined nor is it

¹ E.g., independent Claims 1, 8 and 15 are amended to clarify what the term "each" in the phrase "each of which is made up of" defines. Further, new Claim 16 recites features substantially similar to those recited in independent Claim 1, but is drafted to avoid interpretation under 35 U.S.C. § 112, sixth paragraph. Claim 14 is amended to add a period at the end of the claim.

well known in the art.” More particular, Claim 7, for example, recites “extracting multiple pixels corresponding to a target pixel in the expanded image as a class tap.” This operation is described in an exemplary embodiment at p. 49, l. 16 - p. 50, l. 2 of the specification. More particularly, the cited portion of the specification describes that image data is supplied to a class pixel group cut-out section 711 that cuts out pixels necessary for the class classification for the purpose of representing a degree of movement. Thus, as described in the specification and as defined in Claim 7, a “class tap” is defined as extracted multiple pixels corresponding to a target pixel in an expanded image. Therefore, Applicants respectfully submit that Claims 7 and 14 particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Accordingly, Applicants respectfully request that the rejection of Claims 7 and 14 under 35 U.S.C. § 112, second paragraph, be withdrawn.

The Office Action rejected Claim 15 under 35 U.S.C. § 101, as directed to non-statutory subject matter. More particularly, the Office Action notes that the claim does not define “a computer-readable medium or computer-readable memory” and is thus non-statutory for that reason. In response, Claim 15 is amended to recite “A computer-readable memory including a program for allowing a computer to perform ...” as recommended in the Office Action.

Accordingly, Applicants respectfully request that the rejection of Claim 15 under 35 U.S.C. § 101 be withdrawn.

The Office Action rejected Claims 1-5, 8-12 and 15 under 35 U.S.C. § 102(b) as anticipated by Kondo. Applicants respectfully traverse this rejection as independent Claims 1, 8 and 15 and new independent Claim 16 recite novel features not taught by the applied reference.

Independent Claim 1, for example, recites an apparatus for processing an image, said apparatus comprising:

motion vector detection means for detecting a motion vector about a moving object that moves in multiple images ...;

motion-blurring-mitigated object image generation means for generating a motion-blurring-mitigated object image in which motion blurring occurred in the moving object in each image of the multiple images is mitigated by using the motion vector detected by the motion vector detection means; and

output means for combining the motion-blurring-mitigated object image that is generated in the motion-blurring-mitigated object image generation means *into a space-time location, in each image, corresponding to the motion vector* ... to output it as a motion-blurring-mitigated image.

Independent Claims 8 and 15, and new independent Claim 16, while directed to alternative embodiments, recite similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1, 8, 15 and 16.

Turning to the applied reference, Kondo describes an image processing device that detects a movement vector of a moving object by detecting a mixture ratio indicating the proportion of mixing with an image, or taking into consideration a region mixed with the image.² As described in paragraphs [0334]-[0336], Kondo's apparatus includes a blurring adjustment unit 106 that uses a movement vector to adjust movement blurring amounts contained in foreground component images.

Kondo, however, fails to teach or suggest that his apparatus "combines a motion-blurring-mitigated object image ... *into a space-time location, in each image, corresponding to the motion vector* ... to output it as a motion-blurring-mitigated image," as recited in independent Claim 1.

In the configuration recited in Claim 1, the motion vector is used while determining the position to combine the motion-blurring-mitigated object image. For example, the apparatus combines the first image which is motion-blurred mitigated into a corresponding

² Kondo, Abstract.

position (e.g., a space-time location) in the second image which is a next frame, in a temporal (e.g., time) direction ***corresponding to the motion vector***. Therefore, in the second frame, it is not necessary to process mitigating the motion blur.

In rejecting the above noted features recited in independent Claim 1, the Office Action relies on Fig. 137 and the “image synthesizing unit” of Kondo where the “background component image” and “foreground component image” are combined. More particularly, as described at paragraphs [1154]-[1158] of Kondo, the image synthesizing unit 4023 synthesizes a foregoing component image, a mixed region synthesized image supplied from the mixed region image synthesizing unit 4022, and an arbitrary background image, to generate and output a synthesized image. Thus, Kondo fails to disclose that a motion vector is used to combine a motion-blurring-mitigated object image into a space-time location, in each image, as recited in independent Claim 1. More specifically, Kondo fails to disclose that the image synthesizing unit 4023 uses a motion vector to place a motion-blurring-mitigated object image, whatsoever.

Therefore, Kondo fails to disclose an apparatus for processing an image including “output means for combining the motion-blurring-mitigated object image that is generated in the motion-blurring-mitigated object generation means ***into a space-time location, in each image, corresponding to the motion vector*** ... to output it as a motion-blurring-mitigated image,” as recited in independent Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 1 (and Claims 2-5 which depend therefrom) under 35 U.S.C. § 102 be withdrawn. For substantially similar reasons, it is also submitted that independent Claims 8 (and Claims 9-12 which depend therefrom), 12 and 15 patentably define over Kondo.

Regarding the rejection of Claims 6-7 and 13-14 under 35 U.S.C. § 103 as unpatentable over Kondo in view of Wang and/or Kondo ‘539, Applicants note that Claims

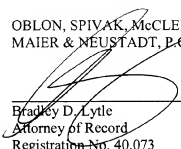
6-7 and 13-14 depend from independent Claims 1 and 8, respectively, and are believed to be patentable for at least the reasons discussed above. Further, Applicants respectfully submit that neither Wang nor Kondo '539 remedy the above-noted deficiencies of Kondo.

Accordingly, Applicants respectfully request that the rejection of Claims 6-7 and 13-14 under 35 U.S.C. § 103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-16 is definite and patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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